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THE UNIVERSITY OF ALBERTA

THE HISTORY OF FINGERING FOR STRINGED KEYBOARD INSTRUMENTS

by

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AN ESSAY

SUBMITTED TO THE DEPARTMENT OF MUSIC

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE

DEGREE OF MASTER OF MUSIC

THE DEPARTMENT OF MUSIC

EDMONTON, ALBERTA

SPRING, 1971

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INTRODUCTION

In addition to the purely historical information which is presented in this essay, certain other aspects are considered which are relevant to keyboard performance.

The relationship between the development of stringed keyboard fingering and the evolution of the instruments themselves, as well as the connection between fingering and musical style are considered in Chapters I and II.

It is suggested in this essay that there are some concepts relating to older methods of fingering which could prove useful to the present-day performer; that an understanding of earlier fingering would promote a better grasp of performance styles; and that modern fingering might be preferable in some circumstances when performing in these styles on modern instruments.

The evolution of finger equality, including thumb and little finger, is a major concern throughout this paper.

The main aspects of fingering evolved within the time limits of the late Renaissance and the age of Beethoven. There is little authoritative information on fingering before the German and English masters of the sixteenth century and apart from technique, very little of significance has been added in terms of fingering patterns since Clementi and Beethoven. Perhaps one exception to this is a freer use of the thumb on black keys. This and other historical data are explored in Chapter III.

The fingering notation used in this essay is the "Continental" or modern system in which the numbering is "1" to "5" in both hands from thumb to little finger. For the sake of clarity, the various other numbering systems, such as the English virginalists' reversed left-hand numbering, or the use of "x" for thumb, will be indicated by modern notation throughout this paper.

A certain amount of controversy has centered around the subject of unequal duration of equally written notes with such fingering as 3434 being stipulated. Scholars are not in agreement regarding the actual practice of this technique;[1] and a detailed discussion is not included because the principles involved are subordinate to the history of keyboard fingering.

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[1]Authors have presented divergent opinions in the following articles and book:

Sol Babitz, "On Using Early Keyboard Fingering", The Diapason (February 1969), pp. 16-17; Paul LeHuray, "On Using Early Keyboard Fingering: A Sequel", The Diapason (July 1969), pp. 10-11; Arnold Dolmetsch, The Interpretation of the Music of the 17th and 18th Centuries (London: Oxford University Press, 1946).

CHAPTER I

THE DEVELOPMENT OF STRINGED KEYBOARD INSTRUMENTS

The Keyboard

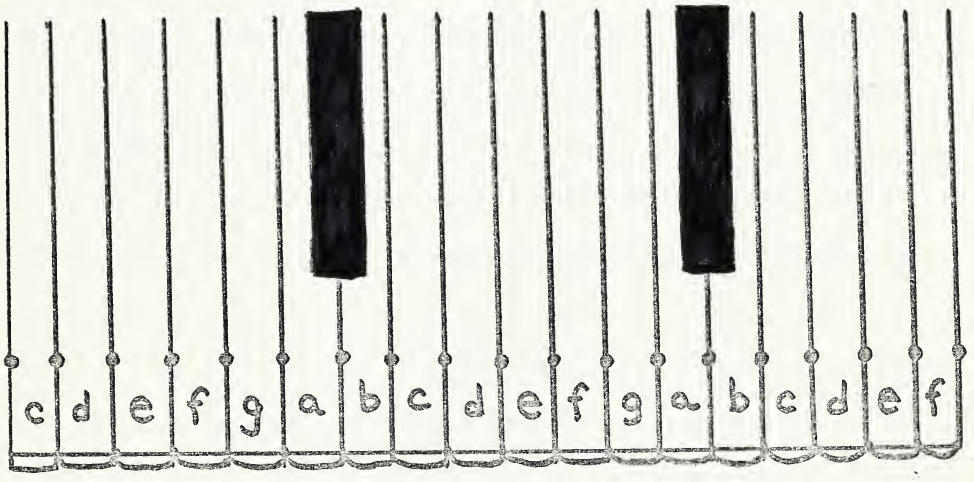
The earliest keyboard was associated with the organ. Organs of the ninth and tenth centuries A. D. had eight to ten keys or tongues which were pulled out and pushed in, or perhaps hit with the fist in order to activate the flow of air through the pipes. By about the end of the twelfth century the organ keyboard extended from G to e'', nearly three octaves.

Resulting from the practice of Musica Ficta and concurrent with modifications to the modal system in the fourteenth and fifteenth centuries, the keyboard first acquired the black key of B flat, and by about 1450, the keys of F sharp, E flat, C sharp, and G sharp in that order. Some early fourteenth-century organ literature requires use of all black keys in at least one octave. However as late as the year 1619, Praetorius wrote of the existence of keyboards possessing white keys with only B flats. (See Figure 1.)

In the seventeenth century most keyboard instruments of all types extended an average compass of four octaves with all chromatic keys present, except in the extreme bass. Bach's harpsichord spanned five octaves. The Romantic composers used six and one-half-octave instruments. The modern compass is seven and one-quarter octaves. However,

despite numerous fingering disadvantages when used for more recent literature, and notwithstanding some unsuccessful attempts at modernization, the fifteenth-century keyboard has undergone little change to the present day, other than in compass.

Figure 1



An early 16th-century keyboard with added B flat. From Virdung's Musica Getutscht, 1511.

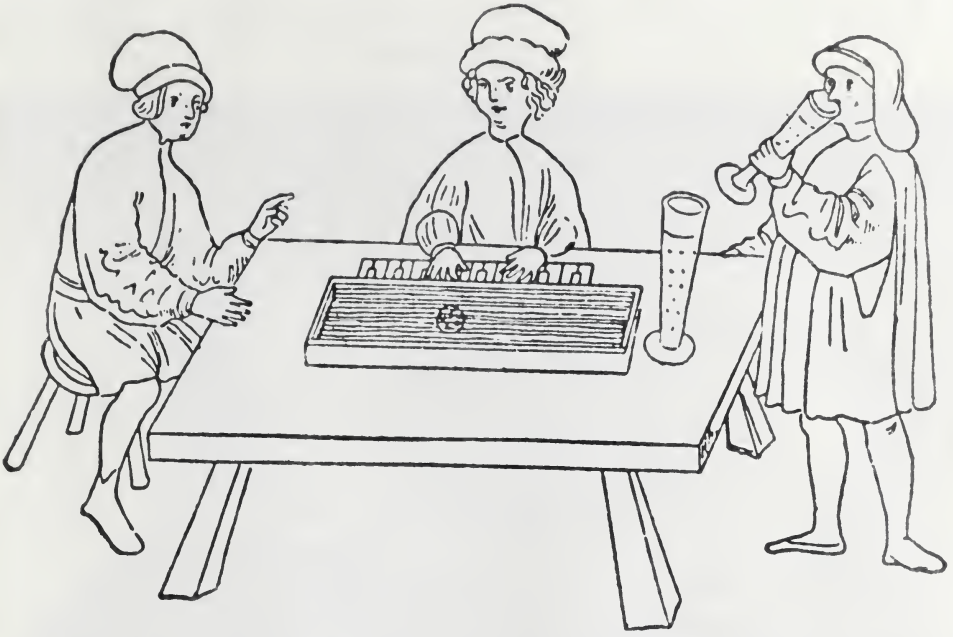
The Clavichord

The clavichord was the earliest type of stringed keyboard instrument, originating probably in the twelfth century when the dulcimer acquired a keyboard. The first one consisted of an oblong box from two to five feet in length. This was placed on a table; later ones had their own leg stands. The parallel strings extended down the long side which faced the player (Plate 1). The strings were struck from below by metal tangents activated by the keys. These tangents stopped the strings with felt at the same moment that they struck, so that the note was both pitched and sounded simultaneously.

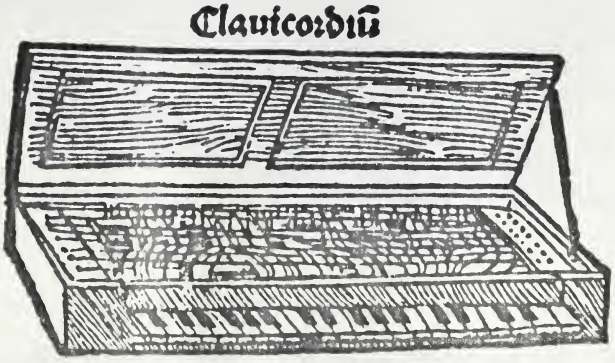
By the time of J. S. Bach (1685-1750), unfretted clavichords had been developed. These instruments had one string to a key so that any number of notes could be struck simultaneously.

The sound of the clavichord was soft and gentle, suitable only for a small room, but the tone could be slightly modified by the touch. Thus certain notes and voices could be emphasized; moreover a vibrato (Bebung) could be achieved by rocking the finger on the key.

The era of the clavichord extended from about the fourteenth century to the beginning of the nineteenth century.



CLAVICHORD (one of the oldest representations of the instrument—Weimar, mid-15th century)



CLAVICHORD (from Virdung's *Musica Getutscht*, 1511)

PLATE II

THE LATER CLAVICHORD

(from Franz Hirt's Stringed Keyboard Instruments 1440-1880, Boston: Boston Book and Art Shop, 1968).

The Harpsichord

The harpsichord family with its bolder sound, even though it developed later than the clavichord, became the most popular stringed keyboard group from about 1500 to 1800.

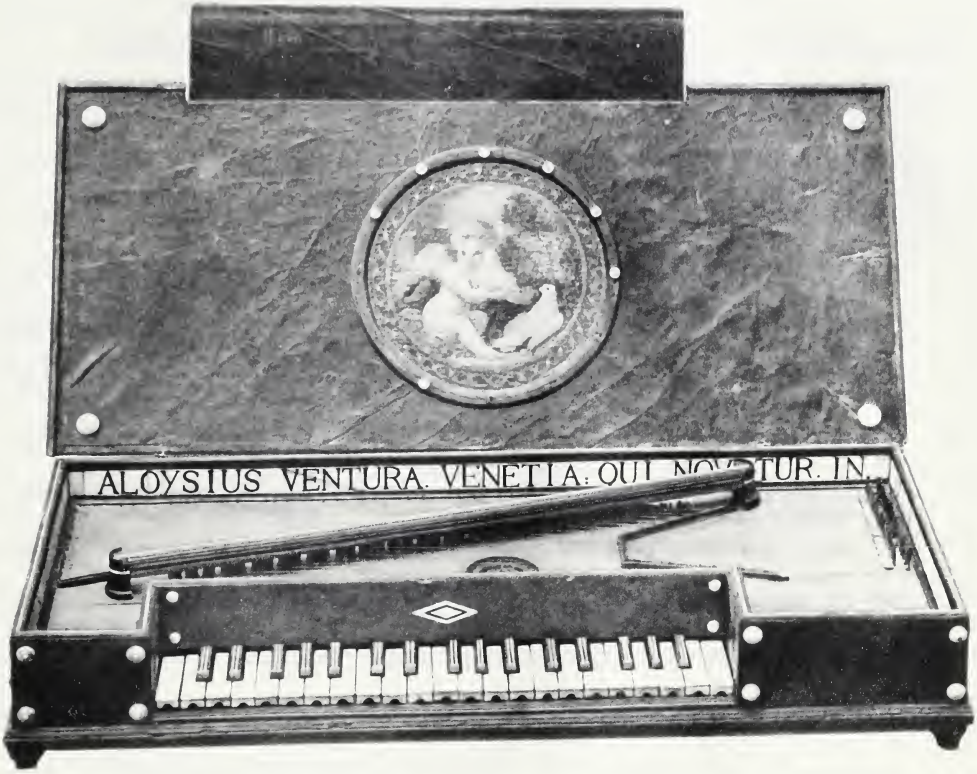
The harpsichord evolved through three fairly clear-cut stages: the virginal, the spinet, and the harpsichord proper.

The virginal was similar to the early clavichord in appearance (Plate III) but its strings were plucked by quills or points of leather called plectra. There was one string to each key in the virginal. Little modification of tone was possible.

The spinet differed from the virginal only in its triangular shape and in the fact that its strings were placed almost at right angles to the keyboard providing room for longer bass strings. The spinet was in common use from the seventeenth century to the end of the eighteenth century.

The harpsichord itself existed along with the spinet as a more elaborate version of its smaller counterpart. It possessed two or more strings to a key and though it was shaped like the spinet, it was often larger. Furthermore it had mechanical means of varying the tone. Pedals and stops were used to connect and disconnect the additional strings and thereby achieve variety of harmonic richness. Often there were two and sometimes three keyboards on the larger harpsichords. Modern harpsichord manufacturers have attempted to achieve even further keyboard control of the sound.

PLATE III



THE VIRGINAL

(from Hirt's Stringed Keyboard Instruments).

The Pianoforte

Experiments combining the sensitivity of the clavichord with the brilliance of the harpsichord led to the development of the pianoforte. Willi Apel states that as early as 1610 in Holland a hammered stringed keyboard dulcimer had been built.[1] This was a century before the acknowledged founder of the piano, Cristofori, produced his "piano e forte" harpsichord in Florence (Plate IV). In Cristofori's instrument the hammer escaped quickly from the string, allowing it to vibrate freely. The tangent of the clavichord remained on the string, hampering the vibration. As in the case of the harpsichord dampers of felt were incorporated to stop the vibrations of each string and to achieve a separation of sounds. The new aspect of the piano e forte was that the finger could control the volume of each note.

Subsequently, square, upright, and grand pianofortes were built, all from previous harpsichord prototypes.

Italy, Germany, France, England, and America each provided their separate contributions to the pianoforte. These included the sustaining, sostenuto and soft pedals in Italy; improved soundboards in Germany; improved hammers, strings, and action in Germany, France and England; and the iron frame in America.

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[1] The Harvard Dictionary of Music (Cambridge, Mass.: Harvard University Press, 1969), p. 575.

PLATE IV

THE EARLIEST EXISTING PIANOFORTE

(from Hirt's Stringed Keyboard Instruments;

now in the Metropolitan Museum of New York).

The Relationship Between Instruments and Fingering

During the era of the clavichord and the harpsichord players paid particular attention to the connection between fingering and phrasing. They purposely chose fingering which created the desired articulation and breathing points within the phrase. Tone on the early instruments was not appreciably variable and without a sustaining pedal to assist in shaping the phrase the onus was placed all the more upon finger articulation, and therefore upon fingering itself for phrase shaping. Ease of fingering, or suiting the fingering arbitrarily to one's own needs was not yet a part of the performer's technique. In addition, a continuous legato was not desired by precursors of the classical masters, but rather a high degree of articulation both within and between phrases.

Early fingering patterns, such as crossing 3 over 2 descending, and 3 over 4 ascending, in the right hand (and vice versa in the left hand) suited the lighter action and shallow keybed of most early instruments. One finds differences in fingering patterns between the English virginalists whose masterpieces were performed on lightly quilled instruments, and the Italians of the same period whose virginals were heavily quilled to produce a percussive effect in their more chordal dance music. The thumb and fifth finger were used far more freely in England than in Italy.

François Couperin (1668-1773), in his Art de toucher le

Clavecin (1717),[1] recommends lightly quilled instruments to facilitate a more equal use of all five fingers in order to perform the ornamental embroidery found in music of his school.

It is generally acknowledged that J. S. Bach's favourite stringed keyboard instrument was the clavichord. Its light touch was matched by the light-actioned harpsichord which the passage work in his music demands. The music of Domenico Scarlatti (1685-1757) represents a change from the heavy touch of the earlier period in Italy to light-actioned instruments. This characteristic of light touch was retained in the structure of the early piano.

In the age of the clavichord and harpsichord the fingers stroked the keys inwardly with no wrist or arm action. If a player applies this stroke to an early instrument the reason for the older fingering becomes clear. Fingering such as 3 over 4, 4 over 3, or 3 over 2, slide easily, much as might be done on the modern electronic organ. This fingering is not so suitable to the modern high-tensioned harpsichord or to the heavy-actioned modern pianoforte.

There was no appreciable difference in principles of fingering as applied to clavichord, harpsichord, and early pianoforte, with the exception that the stroking action varied in intensity in playing the clavichord and early pianoforte.

Since there was no sustaining pedal on any of these instruments the fingering had to be chosen carefully in passages requiring

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[1] L'Art de toucher le Clavecin (Paris: Éditions de l'Oiseau Lyre, Vol. I, 1932-33).

held notes and chords. A general rule was that melodies built on broken chords were to be fingered as though the chord were solid in order to achieve the greatest possible richness of sound by overlapping the tones momentarily.

Coinciding with the growing acceptance of the pianoforte, C. P. E. Bach (1714-1788) wrote a chapter on fingering in his famous treatise[1] which reveals quite a radical approach. His intention was no longer to enforce good phrasing in the manner of Couperin but to facilitate execution, as is the aim of modern pianoforte fingering. Evidently, the new dynamic aspect of the early pianoforte had taken some of the burden from fingering in the matter of shaping the phrase.

The two major changes in fingering since C. P. E. Bach, the abandoning of passing fingers over or under one another and the use of the thumb on the black keys, both came about with changes in the pianoforte itself. It became less important on the more dynamically responsive instrument, which finally had both sustaining and soft pedals, to link fingering with articulation. The greatest possible uniformity of fingering patterns in every key became important. The stroking action was used gradually less on the deeper, heavier keyboards allowing the vertically funtioning thumb to become an equal partner in these patterns. The increased use of the wrist and arm

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[1] Essay on the True Art of Playing Keyboard Instruments, translated and edited by William J. Mitchell, (New York: W. W. Norton and Co., Inc., 1949).

further equalized the strength of all five fingers and the expanding range of the keyboard itself demanded greater equality of all the fingers.

CHAPTER II

THE HISTORY OF STRINGED KEYBOARD MUSIC AND ITS EFFECT UPON FINGERING

It is believed that the earliest recorded information on fingering is that provided by Buchner in 1551.[1] The greatest changes in fingering techniques were made from the period of the late Renaissance to the Classical era. It is therefore necessary to consider the stringed keyboard music of this period. Changes in keyboard style--figuration, ornamentation, contrapuntal and harmonic texture--contributed to alterations in fingering techniques as much as changes in the structure of the instruments themselves.

In the early sixteenth century the music of such composers as Paul Hofhaimer (1459-1537) and Antonio de Cabezón (1510-1566), and the publication of Pierre Attaignant in 1530-31 were written for keyboard, the specific instrument to be selected by the performer. Later in the century composers began to specify the instrument for which their music was intended. The function of keyboard music was to provide accompaniment for song, dance, or instrumental ensemble. At the close of the sixteenth century, however, the improved harpsichord achieved a new independence. Composers began to create a literature which was significant in itself. The first step involved

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[1] Peter Le Huray, "On Using Early Keyboard Fingering: A Sequel" The Diapason, July 1969, p. 10.

the transcription of lute pieces, either vocal, dancelike or improvisatory in character.[1] The next stage came about when composers combined lute and organ styles in a new genre for harpsichord and clavichord.[2]

English composers were probably the first to make a major contribution to the literature for the harpsichord. The virginalist school of the late Renaissance included three generations of composers represented by William Byrd; John Bull, Thomas Morley, Giles Farnaby; Orlando Gibbons, Thomas Weelkes and Thomas Tomkins.

The secular forms of music were emphasized in this period. Dance forms, variation and free fantasia forms developed. Idiomatic writing made progress with the emphasis on homophonic, ornamented passage work. Scales superceded lutenistic chords. Both hands were treated more nearly as equals. Sections, frequently paired to allow imitation between the hands, often used one figure.

Of the dances the most numerous are the pavanes and galliards, from which the suite developed. Those of Bull and Gibbons are often related motivically and are more elaborate than the earlier counterparts of Byrd.

The music of Giles Farnaby is of particular interest for its

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[1] for example, the works of Francesco Bendusi (d. after 1553).

[2] for example, the Toccate e Partite d'Intavolatura di Cimbalo of Girolamo Frescobaldi (1583-1643).

pioneering of programmatic expression with spirited figurations in toccata style.[1]

Together with the lighter action of the virginal the more idiomatic writing which developed during this period brought about a greater equalization of the five fingers. This contribution has only recently been properly acknowledged. A similar free use of the thumb and fifth finger was adopted much later on the continent. This equality and freedom of movement of the thumb did not quite approach that of modern times. It is now the normal pivot for hand position changes. However, it is certain that the virginalists used many hand changes hinging around the thumb and that many motivic fragments began or ended with the thumb. The use of the left-hand thumb was more common than the right because of its chordal function.

It is also known that the little finger was considered a "good" rather than a "bad" or "weak" finger among the virginalists in contrast to the prevailing attitude on the continent.

The extent of the influence of the virginalists upon fingering trends in other countries is difficult to assess. Most directly influenced were Jan Sweelinck (1562-1621) in Germany, and Jean François Dandrieu (1682-1738) in France. In the following century the "new" system of Couperin Le Grand (1668-1733) reproduced many of the English characteristics. J. S. Bach, in turn, based much of his method of fingering upon that of Couperin.

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[1]for example, "Faire Weather", Fitzwilliam Virginal Book, Vol. 1, p. 19.

Henry Purcell (c. 1659-1695), although not himself an eminent virginalist composer in comparison with his predecessors, provides their principles of fingering in his Lessons, published in 1696.[1]

Scale fingerings and examples of freedom of thumb and little finger are given in this source. Unsmooth fingerings, purposefully chosen for intended articulation, as well as legato fingerings are in evidence.

Perhaps drama was the foremost aspect of baroque musical expression, but the technical innovation of the figured bass provided a new role for the keyboard instruments. The decline of counterpoint in the early Baroque and the emergence of monody created a special need for keyboard instruments to fill the harmonic space between the melody and its bass. These instruments flourished, as did the method of playing them.

Secular music furthered this growth. Freer forms were appearing, and with them, freer fingering techniques. The best keyboard music of every era seems to have been written by its own best executants. The compositions and performance of Couperin, Bach, and Scarlatti support this. Perhaps one reason is that in times of musical change a truly authentic performance is one played by the composer himself. The keyboard instrument is a kind of one-person orchestra and significant music for it has frequently emerged through its use as a reliable testing ground for new ideas.

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[1] See examples 10 and 11 in Chapter III, p. 34.

Common keyboard forms of the Baroque included the ricercar and canzona types which led, respectively, to the fugue and sonata. Variation forms, partita, passacaglia and chaconne, and improvisatory forms such as toccata, prelude and fantasia also developed.

Two forms stand out as examples of the growing search for more idiomatic expression, the fantasia and the toccata. These pieces stand alone or may be movements within a suite or partita. Suites, developing from the paired dances of the virginalists, were composed in France with a characteristic clavecin style by Jacques Champion de Chambonnières (c. 1602-c. 1672) and in Germany by Johann Froberger (1616-1667). The toccata, an extraordinarily original genre, dating back to sixteenth-century Italy, was developed by Claudio Merulo (1553-1604), Girolamo Frescobaldi (1583-1643) and Froberger into a truly virtuosic style. Closely related types were named preludes, preambles and intonazione. Sweelinck used much of the English-virginalist technique, yet his toccatas reflect Venetian influence. His fantasias were his most original contribution.

The freer forms contained chromaticism, frequent running or arpeggiated passage work covering the entire keyboard and equal distribution of responsibility between the hands.

The clavecinists of France in the early Baroque had probably surpassed French organists in originality. Chambonnières, the first great clavecinist-composer influenced his successors. Intricate rhythms and ornamentation were characteristic of his writing. Nicholas Le Begue (1630-1702) and Jacques D'Anglebert (1628-1691) extended the

range of clavecin music.

François Couperin held sway in France in the late Baroque. Essentially French, he imitated Italian ideas freely. He wrote idiomatically for two manuals. In his music intricate elaboration almost overshadowed outline and he frequently used just one motive as the basis of each piece.

Only Jean Philippe Rameau (1683-1764) among Couperin's successors in France, rivalled him in writing for the clavecin. Rameau conceived instrumental music in terms of opera, the dance and programmatic ideas.

In Spain, the earlier Catalan harpsichordists, including Cabezón, contributed variations on dances tinged with national colour and syncopated rhythmic patterns. The villancico is a lively example of this style. The pieces of Padre Soler (1729-1783), a later harpsichordist, reflect a strong influence of his Italian master, Domenico Scarlatti.

After Frescobaldi a slowing down in harpsichord composition had occurred in Italy until the late Baroque. Domenico Scarlatti became the eminent leader of this period. About six hundred of his sonatas survive. They are mostly in binary form and show imagination in scintillating idiomatic style. Wide leaps, trills, repeated notes and hand-crossing abound.

German, French and Italian styles of the late Baroque were fused in the music of J. S. Bach. His early church sonatas for harpsichord reveal virtuoso effects and a keen idiomatic sense. His

Well-Tempered Clavier and Inventions were created as model didactic works to familiarize the player with stringed keyboard instruments. The "forty-eight " of course, go beyond teaching techniques. The preludes usually provide a single technical drill but the fugues vary greatly in texture and style.

His Inventions were Bach's novel creation to provide the student with, as he states in his own foreward of the manuscript, "a foretaste of composition, neat playing skill and a singing touch."

The English Suites combine French homophony and Italian melodic style; the French Suites fuse these with German polyphony.

Bach's later keyboard works, including the Italian Concerto and Goldberg Variations reflect influences of Scarlatti. The Goldberg must be considered one of the peaks of Baroque keyboard achievements.

In the four surviving harpsichord collections of George F. Handel (1685-1759) an uneven quality is in evidence. They are more Italianate and more idiomatically reserved than the compositions of Bach. All styles and forms of the period are employed. Perhaps the unevenness of workmanship may reflect a lack of proper editing by Handel. As with the organ, he treated the harpsichord as an improvisatory medium. It is from such works that we can today learn about the art of improvisation in the mature Baroque.

George Philipp Telemann (1681-1767), a contemporary of Bach in Germany, represents a first stage of the rococo "galant" period with such pieces as the Fantasies pour le Clavecin, a collection of works in the new popular style suited to the growing domestication of music.

Wilhelm Friedemann Bach (1710-1784), in such rarely heard compositions as his polonaises and "modern" sonatas, proved himself a clavier composer with powers of bold harmonic invention in the "sentimental" or enfindsamer style of the rococo period.

The music of Carl Philipp Emanuel Bach (1714-1788) is generally considered to be a link between J. S. Bach and Haydn. C. P. E. Bach is also regarded as a highly individual innovator in the fields of pianoforte composition and performance. His later sonatas, rondos and fantasies are often expressly marked, "for the Fortepiano," and contain a new breadth of expression suited to the instrument. The sustaining quality of the piano permitted overlapping of sounds in a new cantabile style, found particularly in the slow movements of his sonatas.

Johann Christian Bach (1735-1782), as composer and performer on the newly-evolved pianoforte, continued in many of the directions of C. P. E. Bach. Because of the influence of his Italian student years and the rococo style in general, he is considered a forerunner of Mozart. His forward-looking sonatas included some that were specifically designated for the pianoforte.

During the Baroque and pre-Classical periods both polyphonic and homophonic styles stimulated development in fingering patterns. Contrapuntal forms led to a greater equality of the five fingers and of the two hands. The necessity of holding certain keys while playing others with fingers of the same hand demanded finger changing on held notes. The art of ornamentation which culminated during the late Baroque further emphasized the need for finger

equality. Moreover, greater demands were placed upon the thumb and fifth finger with the emergence of equal temperament which expanded the number of possible keys to twenty-four. Previously unused keys required new fingering patterns.

Homophonic forms of the Baroque and pre-Classical eras encouraged other innovations in fingering. The non-polyphonic pieces of Couperin, Scarlatti, J. S. Bach and his sons compelled the player to leave the comfortable center of the keyboard far more often than in the contrapuntal, more vocally conceived compositions of those two periods. Such homophonic pieces often contained sections requiring hand-crossing, wide leaps, long runs and arpeggios, and consequently new fingering patterns utilizing all fingers of both hands had to be devised by players of this new style of music.

C. P. E. Bach's successor was Josef Haydn (1732-1809). His pianoforte sonatas are early works, and they perhaps lack the maturity of the orchestral and choral works of his later period. Nevertheless, in the sonatas Haydn revealed an even greater naturalness of expression than that achieved by Bach's sons. First-movement form as used by Haydn was common throughout the entire classical period.

Wolfgang Amadeus Mozart (1756-1791) reflects the influence of J. C. Bach in his piano sonatas and sets of variations. In them are combined a certain Italian suavity with a German forthrightness. However, as with Haydn, most of Mozart's sonatas are works of his youth, and many do not compare favourably with his later compositions.

His concertos for pianoforte and orchestra explore the field of virtuoso writing to a degree which is rare in the solo works. It is melodic invention, predominantly, which sets his pianoforte works apart from thoseof his precursors and contemporaries.

Mozart and Haydn influenced one another's music greatly. The art of motivic development of Haydn and the cantabile style of Mozart were merged in the best works of each.

All the above mentioned composers provided a solid foundation for the creations of their successor, Ludwig van Beethoven (1770-1827), whose mastery of the sonata was comparable to Bach's mastery of the fugue. Beethoven's sonatas have been traditionally categorized in three style periods, although each is individual in its own right. New trends of pianoforte writing were begun by Beethoven especially in the visionary final sonatas.

Pianistically, the keyboard pieces of the classicists made ever increasing demands upon the performer. From the earliest Haydn sonatas to the latest ones of Beethoven one finds a growing range of register, tonality, pianistic devices, dynamics and expression. The damper pedal, only experimented with by Mozart but never called for in his compositions, was required by Beethoven as an integral part of performance. Each new mechanical addition to the keyboard instruments affecting range of register and tone was used by the classicists, especially Beethoven.

The effects upon fingering of these developments in both instruments and in musical style were significant. The scope of

fingering patterns reached a level unsurpassed today. Finger crossing was virtually replaced by thumb under and over-the-thumb procedures except, of course, in double-note passages for one hand. More frequent use of thumbs on black keys became a necessity by the time of Beethoven's middle and late periods. Naturally, the arm-shoulder technique which emerged as a source of the required power and endurance in these Beethoven pieces had its effect upon the development of fingering patterns. All fingers had to be able to deliver an equal power, on both white and black keys, at any time, with the source of the power not in the snap of the finger but in the weight of the arm and shoulder. This new technique certainly put an end to any vestiges of the "good" or "bad" finger theories and to restrictions of thumb or fifth finger.

All of these techniques and fingering changes are found in the technical studies of Muzio Clementi (1752-1832), whose works Beethoven admired and recommended, and of Carl Czerny (1791-1857), a pupil of Beethoven.

There are scarcely any new pianistic figurations in the works of the classicists in comparison with the complex baroque and rococo figures (one exception to this might be the Alberti bass) to which one can point as leading to a new fingering pattern. Classicists favoured a simplification of the ornamentation of preceding periods. The requirements were in the areas of finger span, range in both directions, endurance, and, as in the later Beethoven pieces, playing with the hands widely separated.

CHAPTER III

THE HISTORY OF FINGERING

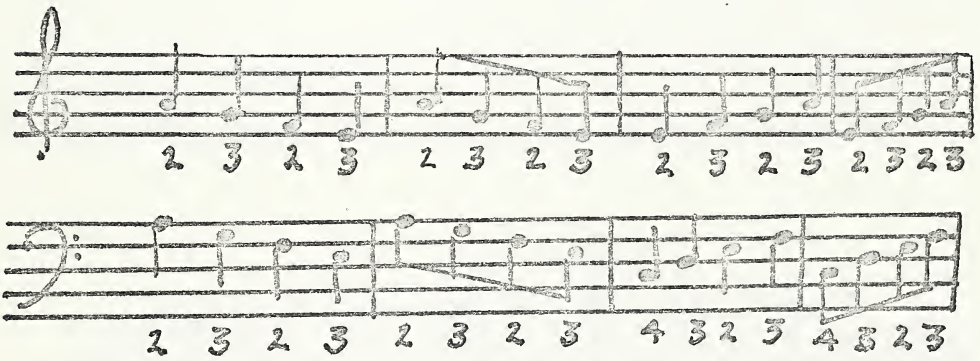
The principal difference between modern and early systems of fingering lies in the degree of equal use of all five fingers. Sixteenth- and seventeenth-century authorities agree that "good" fingers were to be reserved for accented notes and "bad" fingers for unaccented notes. Nevertheless, they could not always agree as to which fingers were "good" or "bad". Another important early characteristic was the crossing of one of the middle fingers (2,3 or 4) over another finger to play scale passages. In conjunction with these early practices there was widespread use of alternate fingerings deliberately varied to change the articulation of similar note patterns.

About 1600 there were two schools of fingering, the English and the German-Italian. Both concurred that "good" fingers should be used on accented notes; however, in the English system, the "good" fingers were 1,3 and 5; in the German system they were 2 and 4. The English method eventually came to the fore and was adopted by masters on the continent up to and including J. S. Bach.

The first recorded information on fingering is probably that of Hans Buchner (1483-1538), a pupil of Paul Hofaimer. In his writings Buchner revealed the prevailing attitude of the old German

system that the thumb was the least useful.[1] Even his numbering of 5 to 1 from thumb to little finger reflects this view. Nikolaus Ammerbach's Orgel-oder Instrumental-Tabulatur[2] of 1571 is the next reliable source on the German school. He and Buchner were substantially in agreement on basic technical matters. The following examples of these authorities show the preferred passing of 2 over 3 and the variation of phrasing of similar notation created by different fingerings. (Examples 1, 2, and 3.)

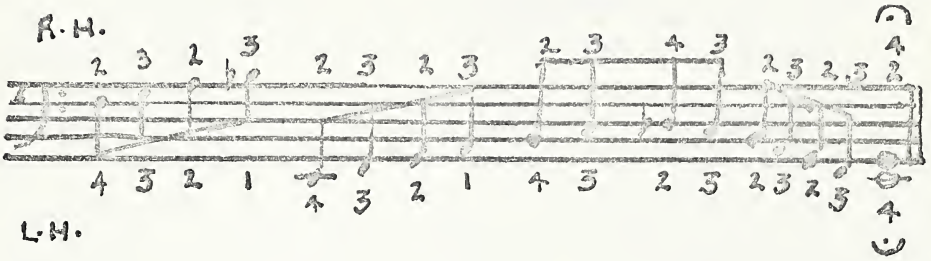
Example 1. (from Hans Buchner's Fundamentbuch, early 16th century).



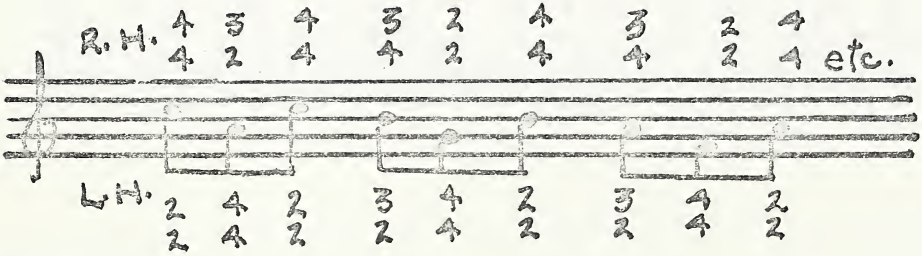
[1] Hans Buchner, Fundamentbuch (Vierteljahrschrift für Musikwissenschaft, Vol. 5, 1889).

[2] Nikolaus Ammerbach, Orgel-oder Instrumental-Tabulatur (Zeitschrift für Spielmusik, No. 192).

Example 2. (from Nikolaus Ammerbach's Orgel-oder Instrumental Tabulatur, 1571).



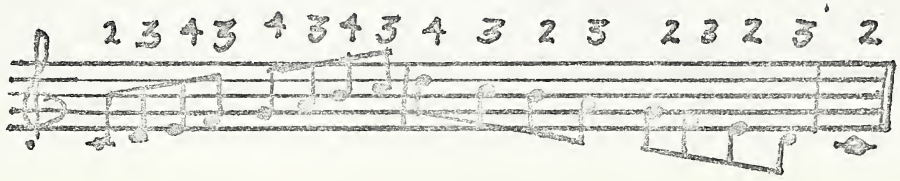
Example 3. (Ammerbach).



Both writers restricted the use of the thumb stating that thirds in both hands should be played with 2 and 4; fourths, fifths, and sixths with 2 and 5; sevenths, octaves, ninths and tenths only with 1 and 5. (Figures transposed.)

From Girolamo Diruta's Il Transilvano[1] of 1597, which develops by Socratic dialogue, we discover that up to then the virginal music of Italy was predominantly of the dance-tune type, performed on heavily quilled instruments. To bring performance up to the prevailing high level of that of the organ Diruta first recommended a lightly quilled instrument. He proceeded to name 1, 3 and 5 "bad," and 2 and 4 "good" fingers. All ascending and descending passages were to be fingered in a manner similar to the patterns in Example 4.

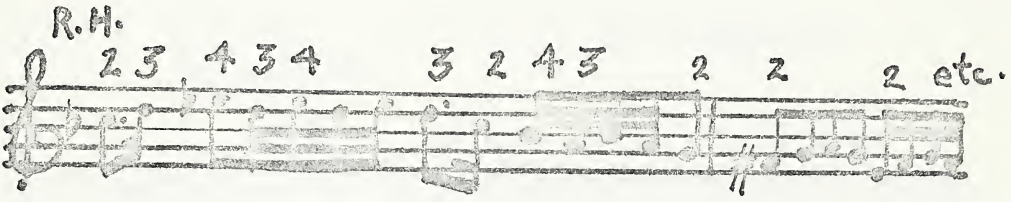
Example 4. (from Girolamo Diruta's Il Transilvano, 1597).



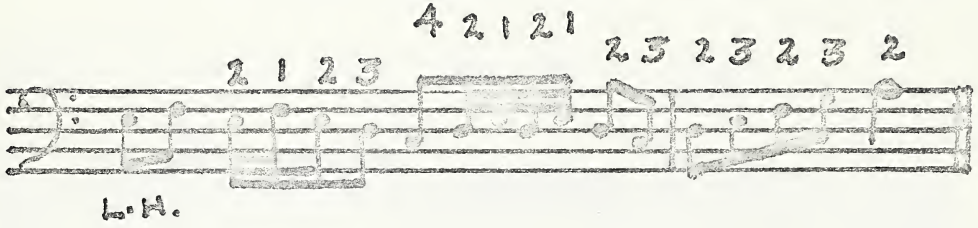
[1] G. Diruta, Il Transilvano, Dialogo sopra il vero modo di sonar Organi e stromenti da penna. (Venice: 1st ed. 1597, 2nd ed. 1615, 3rd ed. 1625). Also in Arnold Dolmetsch, The Interpretation of the Music of the XVII and XVIII Centuries (London: Novello and Co., Ltd., 1946).

The use of the thumb on a black key was to be avoided as being clumsy, according to Diruta (Example 5a), and the left-hand 4, being weaker than that of the right hand, was to be used much less. (Example 5b.)

Example 5a. (Diruta).



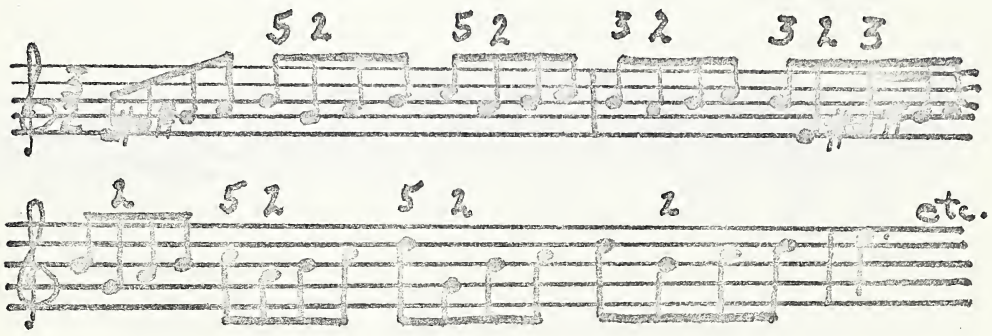
Example 5b. (Diruta).



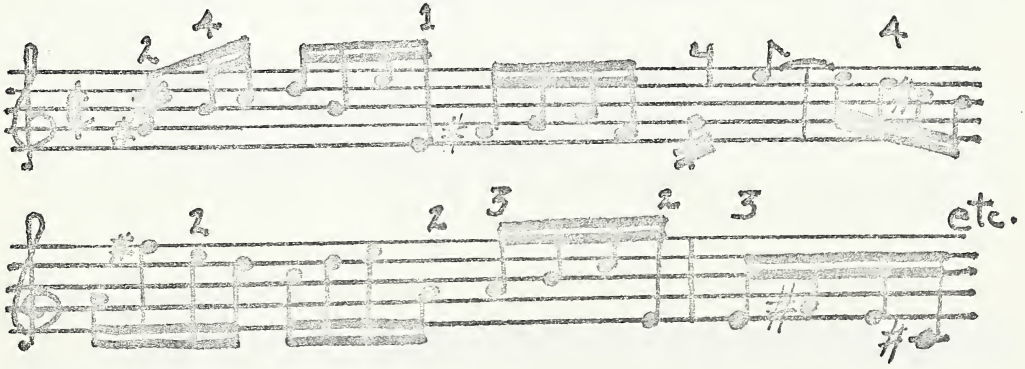
The Italian and English virginalists were radically opposed despite similar crossing tendencies. The difference is found in the English treatment of 1, 3 and 5 as accenting or "good" fingers. An early source of information on old English fingering is the

Fitzwilliam Virginal Book[1] which contains some original numberings. The following examples reveal the English principle of "good" and "bad" fingers, a more frequent use of 1 and 5 than the German-Italian school, sliding of 4 from black to white (Example 6) and finger changing on one note (Examples 7 and 8), a practice not used at that time nor until much later on the continent.

Example 6. (from John Bull's "Galiarda", No. 17, Fitzwilliam Virginal Book).



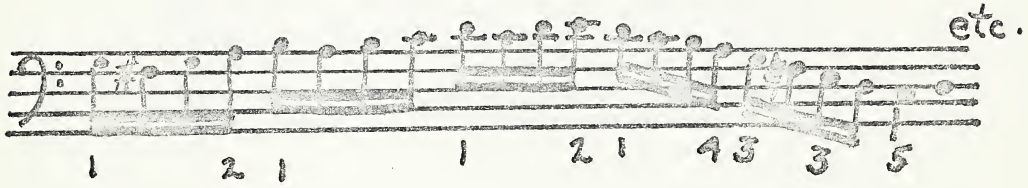
Example 7. (from John Bull's "Pavana", No. 34. F.V.B.)



[1] J. A. Fuller Maitland and W. Barclay Squire, eds., The Fitzwilliam Virginal Book, (New York: Dover Publications, Inc., 1963).

Example 8. (from Bull's "Pavana").

Example 9. (from Orlando Gibbon's "A Prelude," F.V.B.)



In all the above examples one observes that the phrasing is suggested by the fingering.

Henry Purcell's Lessons[1] of 1696 contains these rules:

> "Right hand the Fingers to ascend are the 3d and 4th, to descent ye 3d and 2nd --- Left hand the Fingers to ascend are the 3d and 4th, to descend ye 3d and 2d." (Example 10.)

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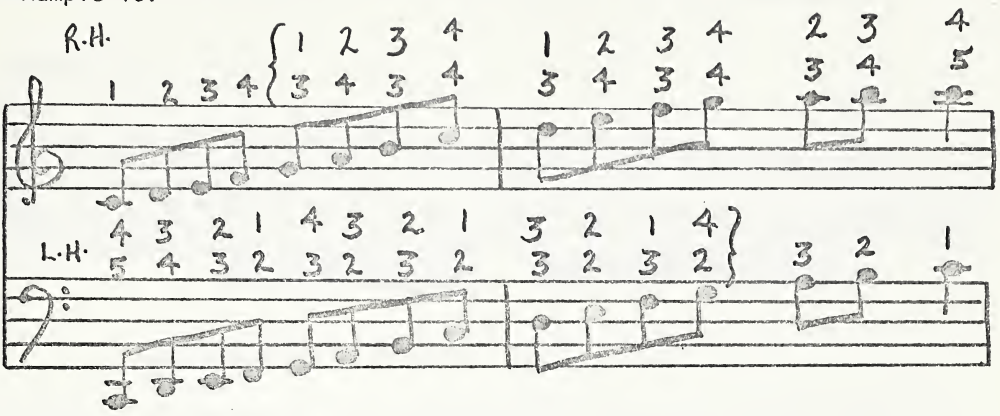
[1]Henry Purcell, Suites, Lessons and pieces for the harpsichord, ed. by William Barclay Squire (London: J. & W. Chester Ltd., 1918).

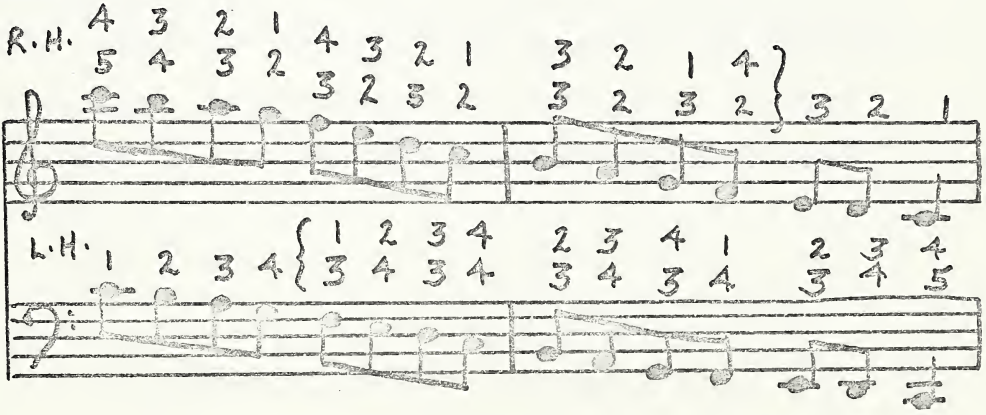
Example 10.



and also,

> "Observe in ye fingering of your right hand your Thumb is ye First so on to ye fifth --- In ye fingering of your left hand your little finger is ye first soe on to the fifth." (Example 11, lower fingering with numbers transposed.)

Example 11.



But in the same source the upper alternate fingering is also found. (Example 11.)

The following example from Edward Bevin's table of graces[1]

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[1]Edward Bevin, B.M. Add. Ms. 31403, c. 1600, p. 5.

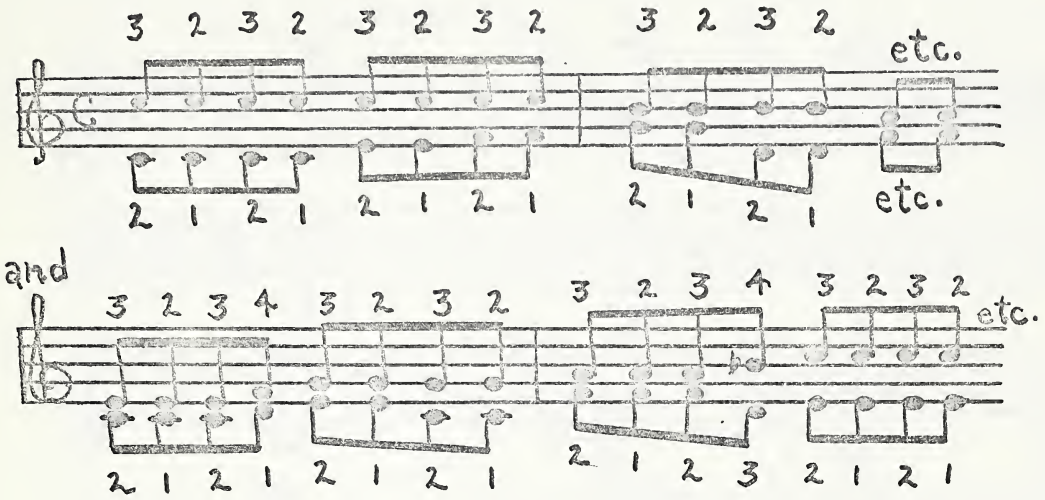
shows the little finger freely employed in a trill. (Example 12.)

Example 12.

Jan Sweelinck's close association with the English virginalists is indicated by the inclusion of a few of his compositions in the Fitzwilliam Virginal Book. Although none of these pieces is fingered, a pupil of Sweelinck, Samuel Scheidt (1587-1654), in his Tabulatur Nova, published in 1624, included a set of Liedvariationen with original fingerings given in the fifth variation.[1] Example 12a from this source shows the English practice of an active left-hand thumb. However, an innovation is seen in the fusion of English and German-Italian concepts of "good" and "bad" fingers. The "good" right-hand 3 plays accented notes simultaneously with the "good" left-hand 2.

[1] Samuel Scheidt, Liedvariationen für Klavier, (New York: Schott Music Corp., 1939), p. 10.

Example 12 a. (from Samuel Scheidt's Liedvariationen, No. 5.)



Jean François Dandrieu published his Pièces de Clavecin Courtes et Faciles[1] around the year 1710 in which collection all the pieces are fingered, and which represents the earliest source on keyboard fingering from France. It may be seen in this work that the English fingering discussed above had certainly influenced Dandrieu even to the point of practising the rare skill of changing fingers on one note. (Examples 13, 14 and 15.) Notice also the typically English freedom of 1 and 5. (Examples 13 and 15.)

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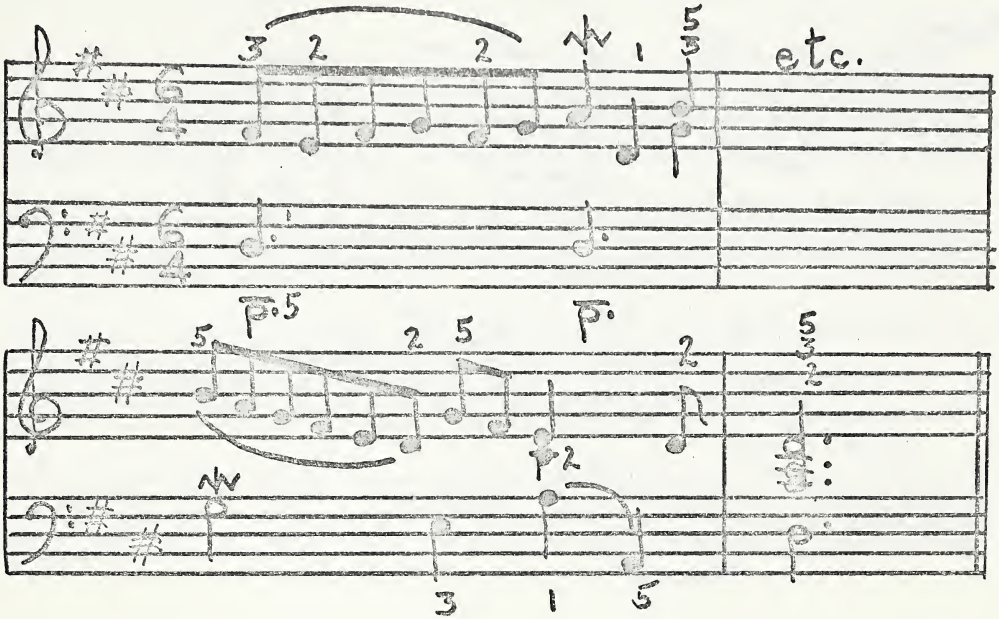
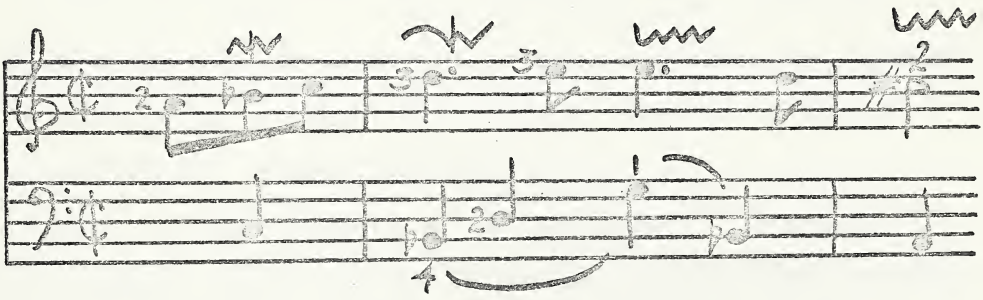
[1] Jean François Dandrieu, Pièces de Clavecin Courtes et Faciles, (Paris: Chez l'Auteur, 1705-1719), also quoted in Dolmetsch, op. cit., p. 395.

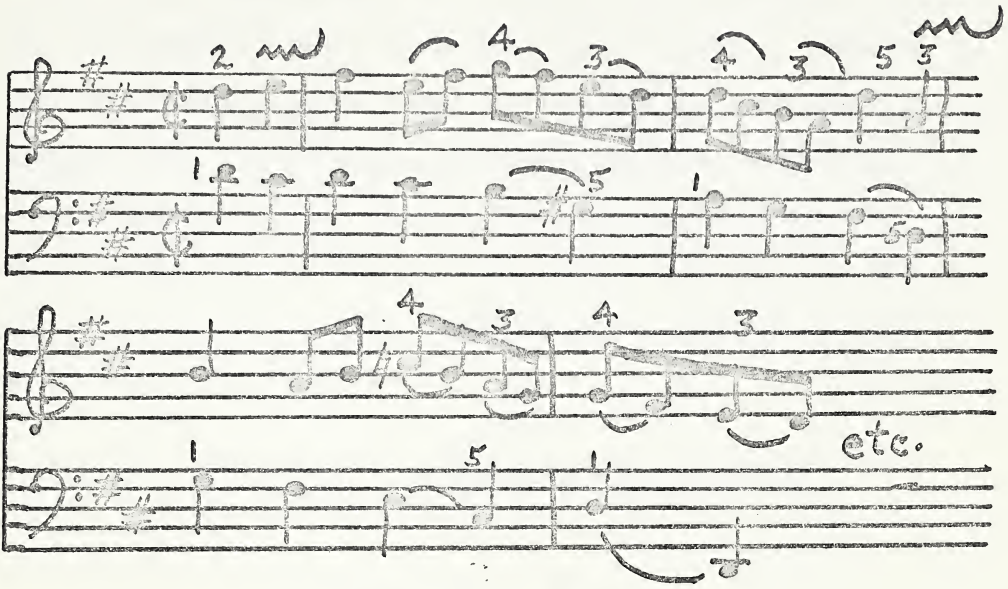
Example 13. (from J. F. Dandrieu's Pièces de Clavecin, c. 1710).



Example 14. (from Dandrieu's "Allemande," Suite III. Ibid.)



Example 15. (from Dandrieu's "Gavotte," Suite IV. Ibid.)



L'Art de toucher le Clavecin[1] published in 1717 by François Couperin contains the admonition to use only harpsichords that are "quilled very weakly" and to keep the fingers close to the keys. Couperin also pointed out that "... a certain passage being fingered in a certain way, produces quite a distinct effect." It will be seen that Bach's system of fingering was very similar to that of Couperin. A greater equality of the five fingers is noticeable in his examples. "Good" and "bad" fingers are no longer designated. Couperin stated that it would be useful if pupils could learn

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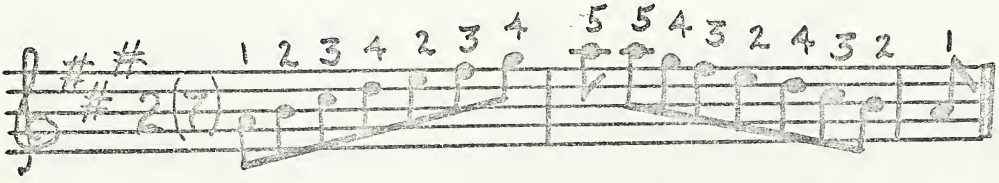
[1]François Couperin, L'Art de toucher le Clavecin, (Paris: Éditions de l'Oiseau Lyre, Vol. 1, 1932-33).

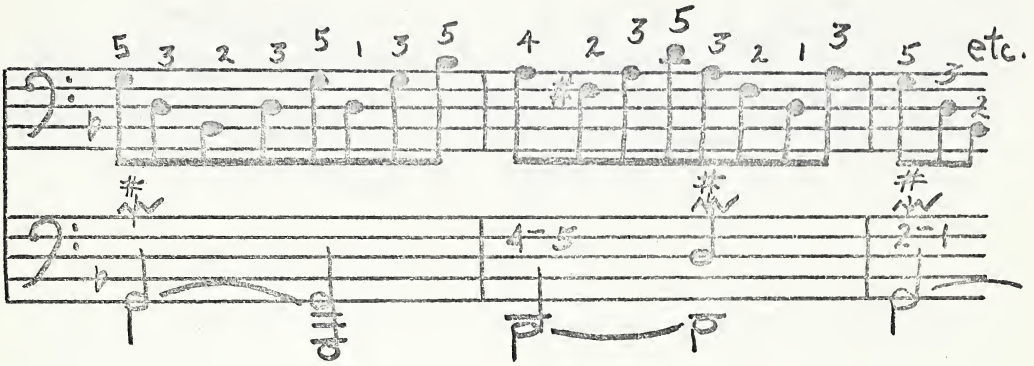
to shake (trill) with every finger. His scale fingering is the same as that used in England more than a century before (Examples 16 and 17), and changing fingers on one note occurs frequently. (Example 18.) Nevertheless, Couperin implies throughout his text that his system is new. The fingering consistently suggests the phrasing and the harmonic rhythm. (Example 18.) Two possible innovations appear in the increased use of finger changes on one note (Example 18) and in his slurred double-thirds fingering. (Examples 19 and 20.)

Example 16. (from Couperin's L'Art de toucher le Clavecin).

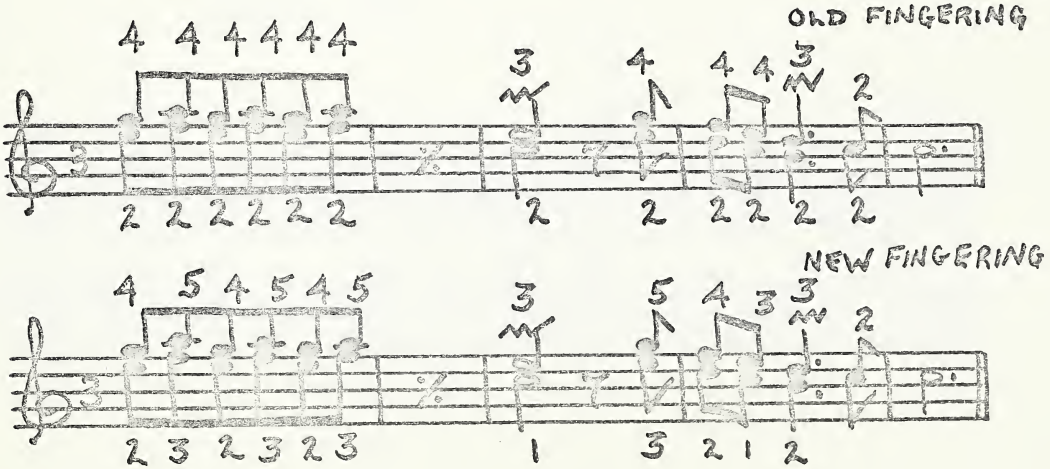
Example 17. (Couperin).



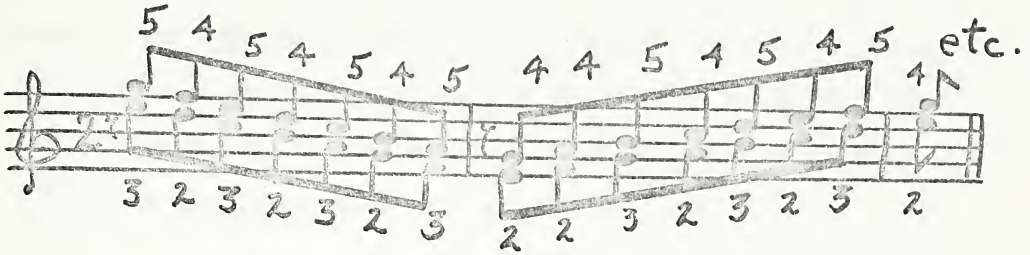
Example 18. (Couperin).



Example 19. (Couperin).

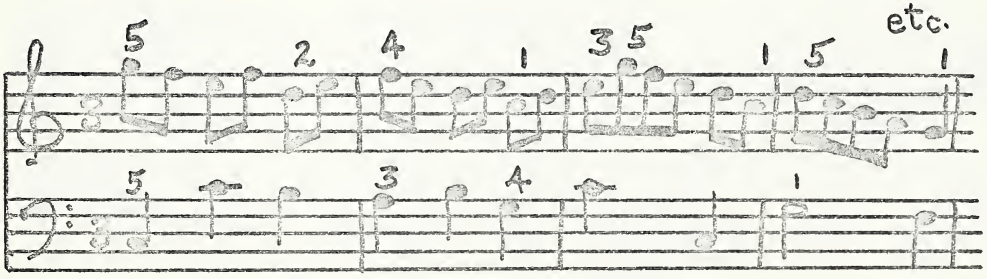


Example 20. (Couperin).



Jean Phillipe Rameau gave fingering examples in the introduction to his Pièces de Clavecin of 1731.[1] Use of the thumb as a pivot is no more remarkable in these examples from that source than in those of Couperin, Dandrieu or even the English virginalists.

Example 21. (J. P. Rameau: "Menuet en Rondeau" from Pièces de Clavecin, 1731).

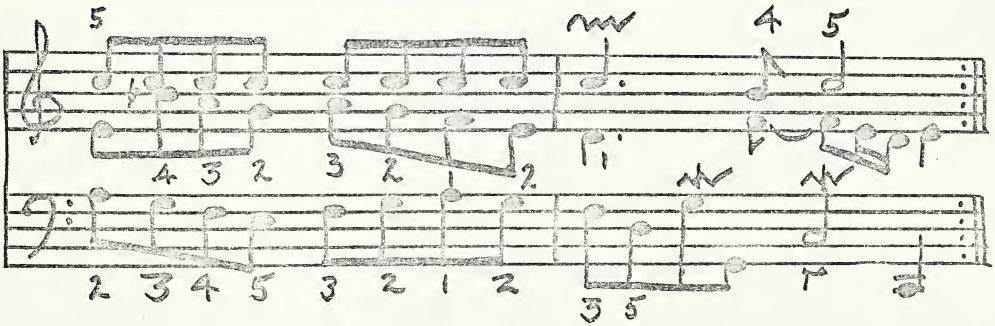


[1] Jean Phillipe Rameau, Pièces de Clavecin -- with the composer's original appended texts, ed. by Erwin R. Jacobi, London: Bärenreiter, 1958-9).

Concerning the preferred position of the fingers used by masters of his time, including J. S. Bach, Johann Quantz (1697-1773) wrote in his Versuch[1] of 1752 that their fingers were curved evenly -- a necessity for full, equal use of the thumb as a playing finger and as a pivot -- and that the finger tips were to slide towards the end of the key without much lifting.

J. S. Bach's careful notation of fingering is found in two pieces from his Klavier Büchlein für W. Fr. Bach and in a simplified version of the first "Prelude" and "Fugue" of Book II of the Well-Tempered Clavier.[2] Excerpts from the two pieces from the Büchlein are given here:

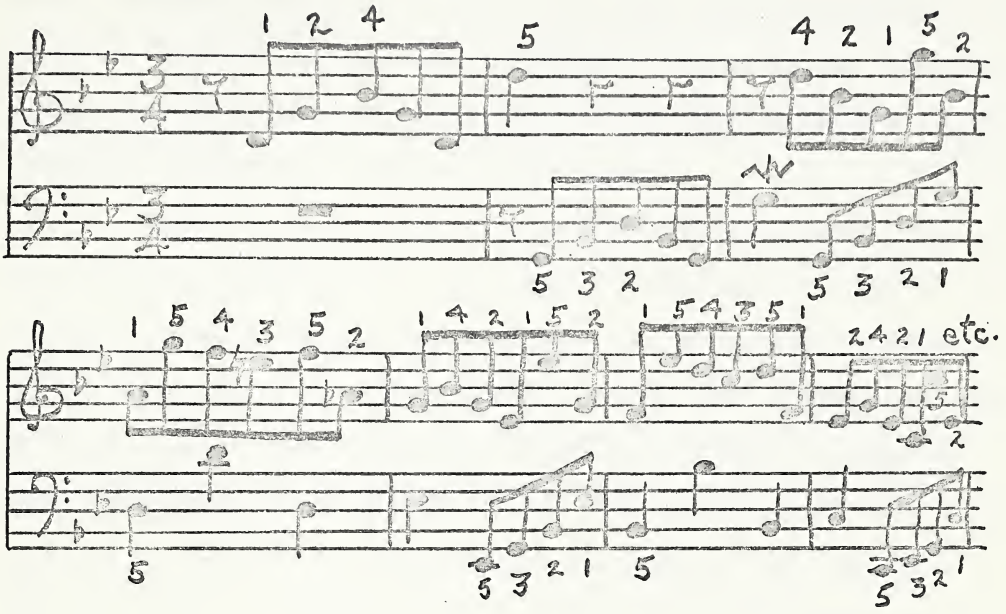
Example 22. (from J. S. Bach's "Applicatio" in the Klavier Büchlein für W. Fr. Bach).



[1] Johann J. Quantz, Versuch einer Answeisung, ed. A. Schering, (Leipzig: 1927).

[2] See Dolmetsch, op. cit., p. 413.

Example 23. (from J. S. Bach's "Praeambulum" in the Büchlein).



Like Couperin, Bach had developed finger equality, especially of 5, as shown in the final right-hand trill of Example 22. Phrasing again dictates fingering. Fingers are placed on adjoining notes as if they were solid chords just as with Couperin. (cf. Examples 18 and 23.)

C. P. E. Bach, in his famous Essay[1] of 1755, implies that his own ideas on fingering were similar to those of his father. He also claims that the precepts of J. S. Bach were innovations. Both

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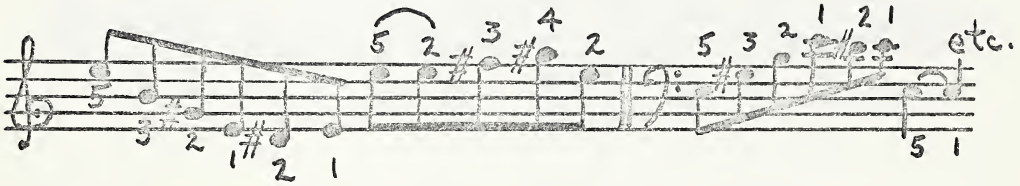
[1]C. P. E. Bach, Essay on the True Art of Playing Keyboard Instruments. Translated and ed. by William J. Mitchell (New York: W. W. Norton and Co., Inc., 1949).

of these arguments have been shown to be unfounded. First, because of his own advanced style of composition and predilection for the newly developed pianoforte, it was C. P. E. Bach himself who proved to be the innovator in the field of fingering. Secondly, the system of the older Bach can be clearly traced back to Couperin and his precursors, especially in the use of the thumb.

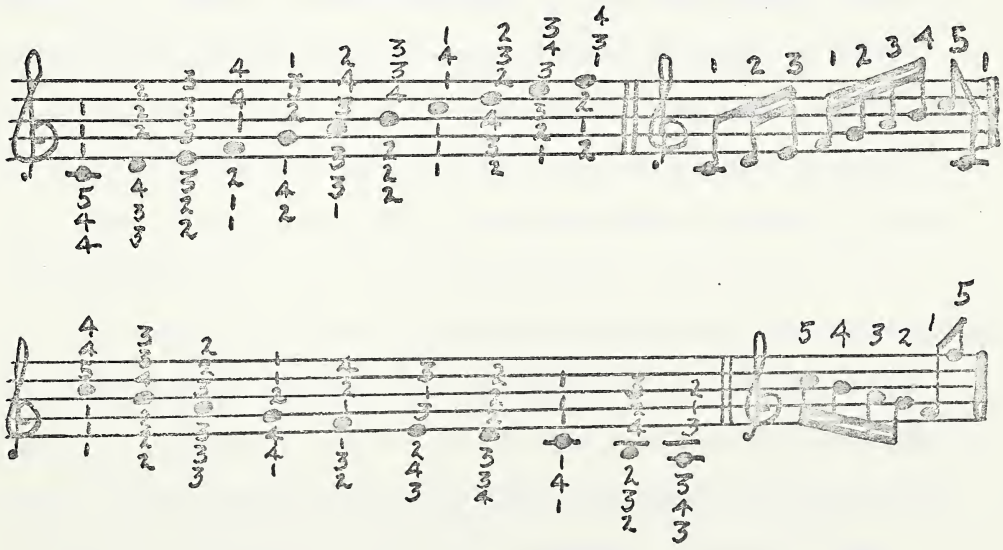
C. P. E. Bach continued the avoidance of the shorter 1 and 5 on black keys (Example 24), and arpeggiated figures were fingered by him as if solid (Example 25), both practices having been followed by his father and by the French school. However, even though crossing patterns such as 3 over 4 were still used in his system, he suggests many alternate patterns (Example 26) not just for reasons of good phrasing but also for the significantly new reason of facilitation. This, of course, is the basis of most modern systems of fingering. C. P. E. Bach allowed all but 5 to pass over the thumb as a pivot, and the thumb to turn under 2 or 3, another distinct change. The modern use of 5 at the beginning or end of a run was advocated by him, as was the use of the thumb just before and after a black key. In the following examples from the Essay other evidence of modern practice may be observed along with the foregoing, such as detached or sliding use of the same finger on adjacent notes (Example 27), and modern double-thirds fingering. (Example 28.)

Example 24. (from C. P. E. Bach's Essay on the True Art of Playing Keyboard Instruments, 1755).

Example 25. (C. P. E. Bach).

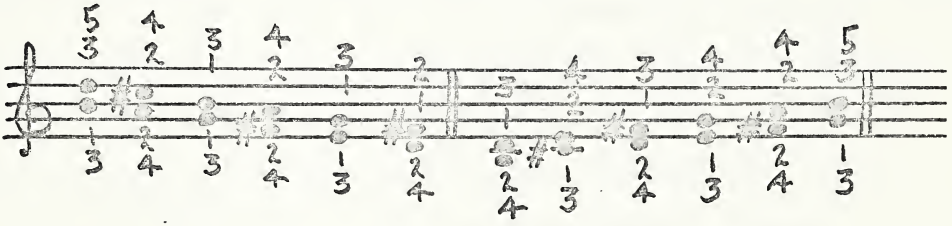


Example 26. (C. P. E. Bach).



Example 27. (C. P. E. Bach).

Example 28. (C. P. E. Bach).



Developments in the Classical era were more of a selective than progressive nature. Whereas C. P. E. Bach still maintained many of the old finger patterns along with the new, men such as Clementi, Hummel and Czerny chose to eliminate crossing in favour of thumb-pivoting. Until the present, it seems safe to say that the executant of the pre-Classical period could use more variations of fingering on a given passage with greater ease than could a classical or later period player.

The cultivation of pianoforte playing which took place during the time of Haydn and Mozart was documented to some degree in the works of their pupils and of other followers of the leading composers. Other sources, although not so reliable, are reports of the playing of the Classical masters and their colleagues. Accounts of the

playing of Mozart and Johann Hummel (1778-1837), a pupil of Mozart, emphasize the new characteristics of cantabile playing and fluent virtuosity. Muzio Clementi, an Italian contemporary of Mozart, must be regarded as an important originator of this virtuoso playing on the modern pianoforte. His status as performer, teacher, composer and pianoforte manufacturer was impressive. His Studies[1] reveal a further limiting of fingering patterns. For example, he gives double thirds and sixths similar fingering in all keys; he does the same with scale and arpeggio passages. A pupil of Clementi who carried on this virtuoso school and its coincidental facilitation of fingering was Johann Baptist Cramer (1771-1858).

As represented in their brilliant studies for piano technique, the independence of all the fingers was extended by Clementi and Cramer. Their aim was to train the fingers to play rapid, cleanly articulated runs, including thirds and sixths in both hands; to play arpeggios, tremolos and octave passages with speed and control; to accomplish inner-voice emphasis, repeated notes, hand-crossings, three notes against two, quintuplet groupings, turns and trills with all fingers and at all tempos. By necessity, fingering patterns centred around expediency. Beethoven's small library was found to contain a number of Clementi's sonatas as well as the Gradus ad Parnassum.

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[1] M. Clementi, Gradus ad Parnassum, ed. Vogrich, M. (New York: G. Schirmer Inc., 1930).

Carl Czerny (1791-1857) represents a link between his teacher, Beethoven, and his pupil, Franz Liszt. To Czerny, Beethoven entrusted the first performance of the Emperor Concerto in 1812. We learn from Czerny that Beethoven was concerned with teaching studies of Clementi, scales in all keys, correct position of hands and fingers, and the free use of the thumb.[1]

Czerny admits that his own Studies were based on the teachings of Beethoven. These contain drills in passage playing, velocity, legato, staccato, left-hand dexterity, octave playing and practice in various styles. From his Letters[2] we learn that he was opposed to finger-crossing, thumb and 5 on black keys, and the use of the same finger on adjacent notes. We discover that he favoured complete freedom of thumb-passing, similar scale patterns, evenness of touch, and fingering that is chosen to suit succeeding notes as well as immediate ones.

The contributions of Czerny's pupil, Franz Liszt, to this school of virtuosity were more in the nature of an extension than an innovation. Liszt exploited the Czerny method to its utmost without altering its basic precepts, except perhaps, for the more frequent use of thumbs on black keys and two notes played with the thumb.

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[1] The Art of Fingering Dexterity, ed. M. Vogrich (New York: G. Schirmer Inc., 1930).

[2] Letters to a Young Lady on the Art of Playing the Pianoforte, (3rd ed., London: R. Cocks and Co., 1848), p. 18.

SUMMARY AND CONCLUSIONS

The earliest accounts of keyboard fingering confirm a two and one-half century-long tradition of passing the fingers over one another, with avoidance of the use of thumb and little finger. Flat finger position and frequent hand twisting unacceptable in modern times were commonly employed.

A practice in isolated use among the English virginalists was the freer use of the thumb and little finger beyond that in playing octaves and chords. Couperin, Rameau and J. S. Bach, more than a century later, advocated this same technique and were also among the first to use curved finger positions. However, even they avoided thumb and little finger on black keys, and employed crossing rather than passing fingers over the thumb.

It was C. P. E. Bach and his contemporaries who first developed the idea of passing the thumb under the other fingers, or passing over it for a better legato style. The classical composers favoured this idea. Beethoven encouraged his pupils, including Czerny, to study C. P. E. Bach's fingering. With the rising popularity of the pianoforte, musicians such as Clementi put aside the old finger-crossing technique, except in double-note passages.

Since the age of Clementi and Beethoven, very few patterns of fingering have been added other than more frequent use of thumb and fifth finger on black keys and two notes played together with the thumb. More significant changes have occurred in matters

of technique than in fingering itself.

Ideally, players should learn the fingerings and techniques of the past from the beginning of their training--for this appears to be the only possible way of mastering them--and players should have the opportunity of practising and performing upon authentically reproduced instruments. This seems necessary in order to rediscover the stringed-keyboard styles of the past. Much controversy exists concerning historic keyboard styles and few coordinated efforts have been made in search of these ideals.

Furthermore, there are real advantages in combining older fingerings which are based on phrase-shaping with modern ones which emphasize facilitation in playing music of every period.

Finally, the modern player who avoids studying earlier fingerings because they apparently do not assist facilitation or because they do not suit modern instruments and techniques is at a disadvantage because the very awareness of the existence and implications of older fingering patterns strengthen one's understanding of historic styles.

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